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FEDERAL-STATE-PRIVATE
COOPERATIVE SNOW SURVEYS

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PROCUREMENT SECTION
CURRENT SERIAL RECORDS

WATER SUPPLY OUTLOOK FOR OREGON

Prepared by

U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

OREGON STATE UNIVERSITY

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above
in cooperation with other Federal, State and private organizations.

AS OF
MAR. 1, 1971

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters of key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 970, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR OREGON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued

MARCH 8, 1971

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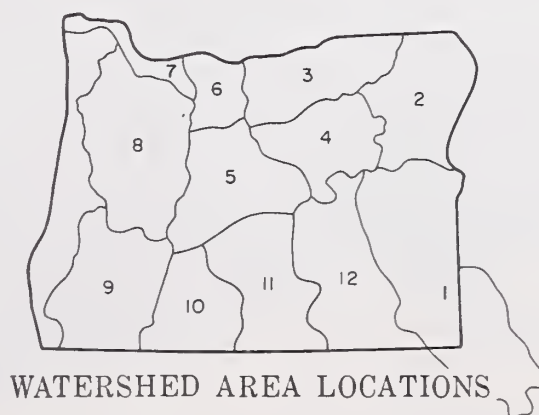
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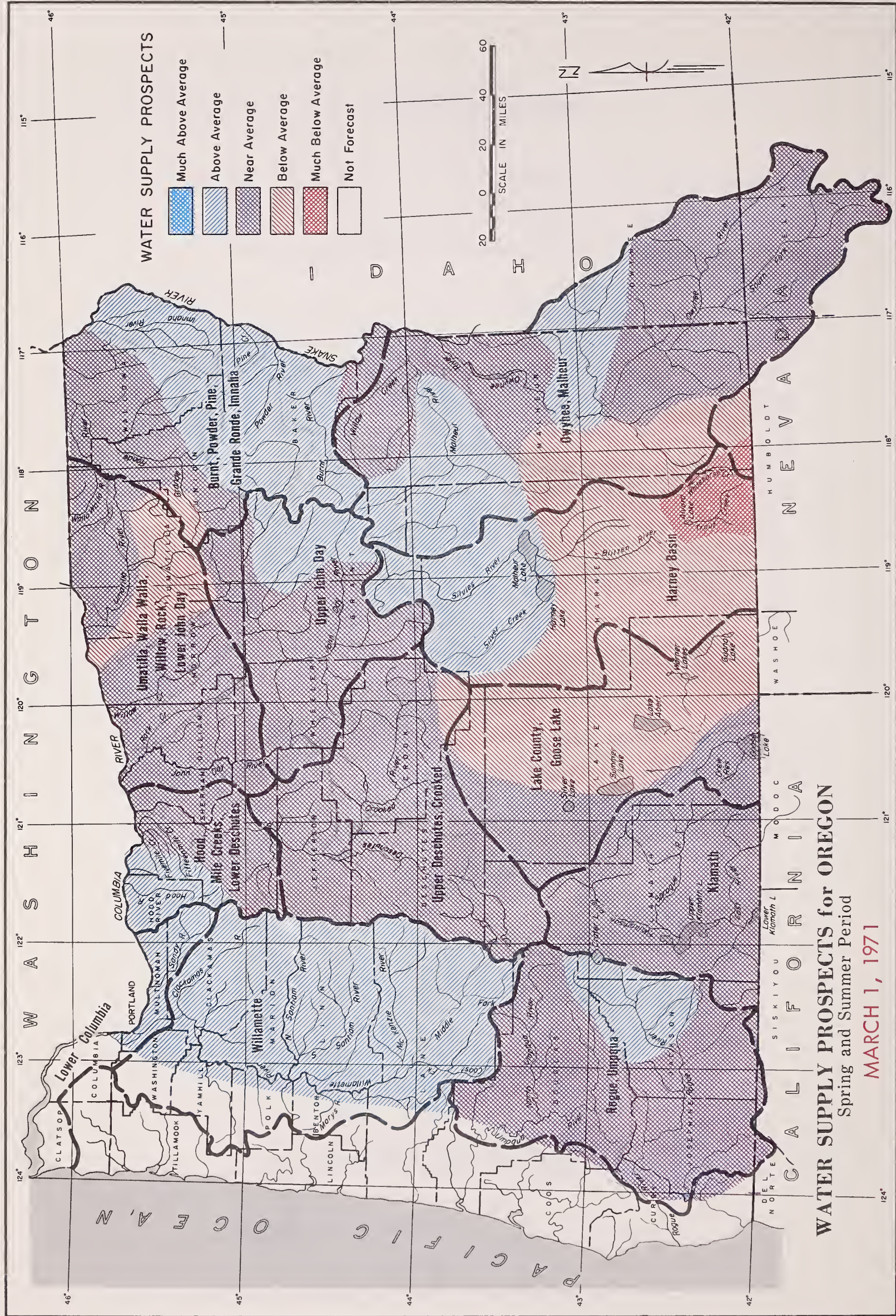
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TABLE OF CONTENTS

	PAGE
WATER SUPPLY PROSPECTS FOR OREGON.....(MAP).....	FACING PAGE 1
WATER SUPPLY OUTLOOK FOR OREGON.....	1
DETAILED WATER SUPPLY OUTLOOK BY MAJOR WATERSHED AREAS	
OWYHEE, MALHEUR.....	AREA 1
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA.....	AREA 2
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY.....	AREA 3
UPPER JOHN DAY.....	AREA 4
UPPER DESCHUTES, CROOKED.....	AREA 5
HOOD, MILE CREEKS, LOWER DESCHUTES.....	AREA 6
LOWER COLUMBIA.....	AREA 7
WILLAMETTE.....	AREA 8
ROGUE, UMPQUA.....	AREA 9
KLAMATH.....	AREA 10
LAKE COUNTY, GOOSE LAKE.....	AREA 11
HARNEY BASIN.....	AREA 12
BASIC DATA SUPPLEMENTS	
I	SNOW
II	SOIL MOISTURE
III	PRECIPITATION
MAP AND INDEX OF OREGON SNOW COURSES.....(MAP)	
LIST OF COOPERATORS.....	INSIDE BACK COVER





WATER SUPPLY OUTLOOK for OREGON

MARCH 1, 1971

Excellent to average water supplies are in prospect for Oregon water users next spring and summer. The snowpack around the state varies considerably from poor to well above average. Reservoir storage continues to be excellent at near 135 percent of average.

SNOW COVER

A warm and dry February decreased the mountain snowpack on many snow courses and less than average increments were received at others during the month. The snow cover is heaviest in the Cascades where it ranges from 120 to 135 percent of average, down from last month's 160 percent. It is near normal elsewhere except on the Umatilla and Owyhee drainages where it is 75 percent of average. The low elevation snow courses in Eastern Oregon were nearly bare of snow on March first.

PRECIPITATION

February was a dry month, especially in southeastern Oregon where precipitation was only 40 to 50 percent of normal. The rest of the state received 60 to 70 percent of average amounts except for the Deschutes Basin, Willamette, and Rogue Valleys, which were near normal. Winter precipitation from November first to date has been above normal over most of Oregon, ranging from a high of 145 percent on the Deschutes watershed to a low of 87 percent of average on the Umatilla.

RESERVOIR STORAGE

Reservoired water supplies are excellent. Twenty-six Oregon reservoirs are storing 2,564,000 acre feet of water. Many are nearly full or will fill during the next several months. The storage is 132 percent of average for March 1.

SOIL MOISTURE

Watershed soils are wetter than normal and will benefit the snowmelt runoff. Soil moisture ranges from 110 percent to 120 percent of average, much better than for the past several years.

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STREAMFLOW

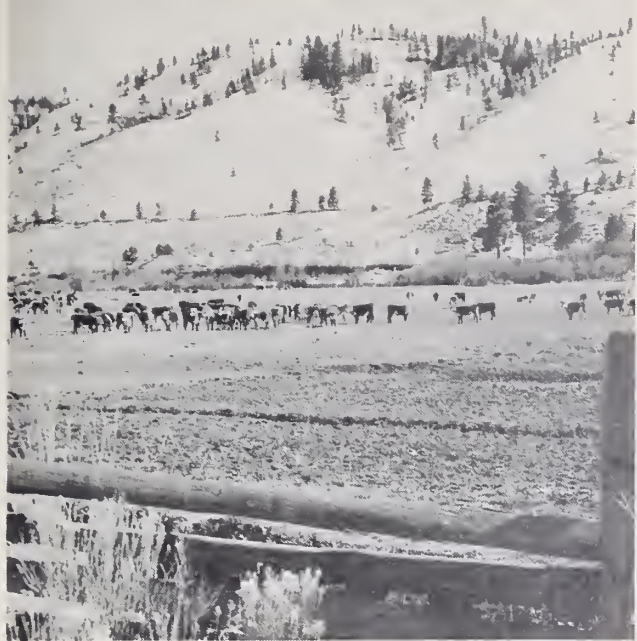
Because of the warm weather in February, streamflow was above average for the second month in a row. Flows were not nearly as high as January's extremes but were still 100 to 150 percent of normal

Forecasts of spring and summer streamflow on some representative Oregon rivers are as follows:

<u>STREAM</u>	<u>FORECAST</u> <u>As percent of 1953-67 Average</u>
Owyhee net Inflow	100
Grande Ronde near La Grande	90
Willamette, Mid. Fk. near Oakridge	115
Upper Klamath Lake net Inflow	98
Rogue at Raygold	105
Silvies near Burns	128
Columbia at The Dalles	117

This report contains data furnished by Oregon State Engineer, U. S. Geological Survey, NOAA National Weather Service, and other cooperators.





WATER SUPPLY OUTLOOK OWYHEE, MALHEUR WATERSHEDS

OREGON

as of

MARCH 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

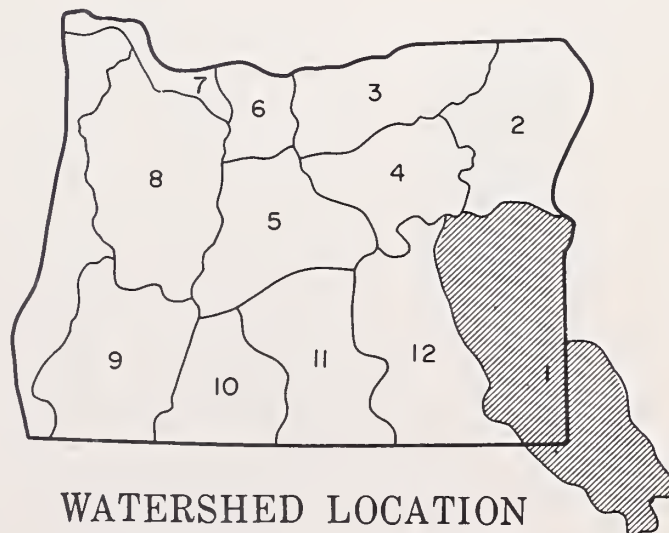
GENERAL OUTLOOK

MALHEUR COUNTY WATER USERS WHO HAVE ACCESS TO STORED WATER WILL HAVE EXCELLENT WATER SUPPLIES NEXT SPRING AND SUMMER. USERS DEPENDING DIRECTLY ON STREAMFLOW WILL EXPERIENCE SOME LATE SEASON SHORTAGES. THE SNOWPACK WAS FURTHER REDUCED BY LESS THAN NORMAL PRECIPITATION DURING FEBRUARY. THE SNOW COVER RANGED FROM 127 PERCENT OF AVERAGE ON THE JORDAN CREEK DRAINAGE TO 75 PERCENT ON THE OWYHEE DRAINAGE, REMAINING MAINLY AT THE HIGHER ELEVATIONS WHERE IT IS ABOVE AVERAGE. BASIN PRECIPITATION DURING THE MONTH WAS ONLY 56 PERCENT OF AVERAGE. WATERSHED SOILS ARE SATURATED AND WILL ENHANCE RUNOFF FROM ANY SPRING PRECIPITATION. WATER STORED IN RESERVOIRS IS 160 PERCENT OF THE NORMAL AMOUNTS FOR MARCH FIRST. THE OWYHEE NET INFLOW WAS 160 PERCENT OF NORMAL DURING FEBRUARY.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Boulder Creek	Average	Fair
Bully Creek	Average	Fair
Cow Creek	Average	Fair
Jordan Creek	Excellent	Average
Jordan Valley Irrig. Dist.	Excellent	Excellent
McDermitt Creek	Fair	Fair
Oregon Canyon Creek	Fair	Fair
Owyhee Project	Excellent	Excellent
Succor Creek	Average	Fair
Tenmile Creek	Fair	Fair
Vale-Oregon Irrig. Dist.	Excellent	Excellent
Warm Springs Irrig. Dist.	Excellent	Excellent
Willow Creek (Reservoired)	Excellent	Average



WATERSHED LOCATION

Report prepared by
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STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Bully Creek at Warm Springs	8.0	70	March-May		11.4
Jordan Creek above Lone Tree Creek	112	132	April-July		85 ^m
	116	136	April-Sept.		85 ^m
Malheur near Drewsey	120	129	March-July		93
	90	125	April-Sept.		72
Malheur, North Fork at Beulah ^d	77	115	March-July		67
	67	112	April-Sept.		60
Owyhee Reservoir net Inflow ^k	369	100	March-July	353	369
	300	100	April-Sept.	306	300

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value ⁱ
Owyhee near Rome	1000 250	May 24 June 28	May 24 June 20

RESERVOIR STORAGE (Thousand Ac. Ft.)

RESERVOIR	Usable Capacity	END OF MONTH Usable Storage		
		This Year	Last Year	Average ⁱ
Agency Valley	60.0	45.2	43.3	30.5
Antelope	55.0	47.7	24.7	11.8
Bully Creek	30.0	22.6	21.8	12.7
Owyhee	715.0	674.0	673.2	411.8
Warm Springs	191.0	136.6	144.5	94.0

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ⁱ
Jordan Creek	1	122	106
Malheur River	3	108	109
Owyhee River	4	123	113

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Jordan Creek	4	100	127
Malheur River	5	81	103
Owyhee River	5	66	75

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (l) Ground measurement. (m) Average for 5 or more years in base period.



WATER SUPPLY OUTLOOK BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS OREGON

as of

MARCH 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

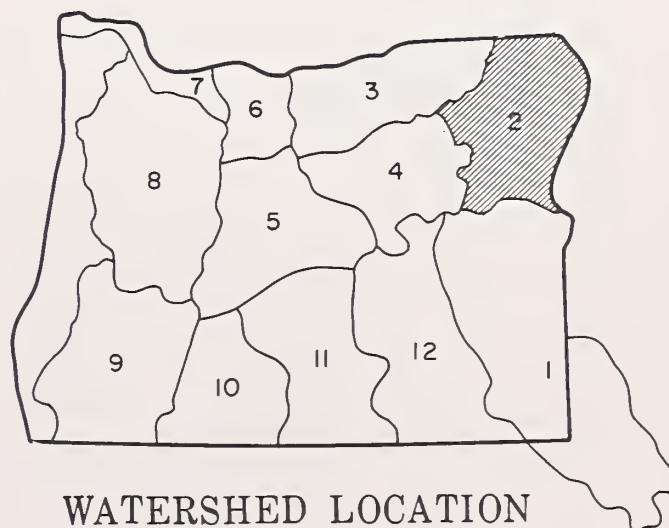
GENERAL OUTLOOK

ABOVE AVERAGE WATER SUPPLIES ARE IN PROSPECT FOR WATER USERS IN THE AREA, EXCEPT FOR THE UPPER GRANDE RONDE BASIN WHICH WILL HAVE AVERAGE SUPPLIES WITH SOME SHORTAGES DEVELOPING IN THE LATE SEASON. THE SNOWPACK RANGES FROM 52 PERCENT OF AVERAGE ON THE GRANDE RONDE DRAINAGE TO 128 PERCENT ON THE POWDER RIVER DRAINAGE, WITH HIGHEST ACCUMULATIONS AT THE HIGHER ELEVATIONS. PRECIPITATION WAS 70 PERCENT OF AVERAGE DURING FEBRUARY. RESERVOIRS ARE STORING ABOVE AVERAGE AMOUNTS. THE SOIL MOISTURE CONTENT IS EXCELLENT AND WILL ENHANCE RUNOFF FROM SPRING PRECIPITATION. FEBRUARY FLOW OF THE GRANDE RONDE AT La GRANDE WAS 160 PERCENT OF AVERAGE.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Alder Slope	Excellent	Average
Baker Valley	Excellent	Average
Big Creek	Excellent	Average
Clover Cr. (nr. N. Powder)	Excellent	Average
Cove	Excellent	Average
Durkee	Excellent	Average
Eagle Valley	Excellent	Excellent
Elgin	Average	Average
Enterprise-Joseph	Excellent	Excellent
Hereford-Bridgeport	Excellent	Excellent
Imnaha River	Excellent	Average
La Grande-Island City	Average	Average
Lostine-Wallowa	Excellent	Average
No. Powder River-Wolf Creek	Excellent	Average
Pine Valley	Excellent	Excellent
Powder River-Elk Creek	Excellent	Average
Summerville	Average	Average
Sumpter Valley	Excellent	Average
Union-Hot Lake	Excellent	Average
Unity	Excellent	Average



WATERSHED LOCATION

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Bear near Wallowa	75	114	April-Sept.		66
Burnt near Hereford ^d	50	116	March-July		43
	40	114	April-Sept.		35
Catherine near Union	75	117	April-Sept.	75	64
Eagle Creek abv. Skull Creek	208	124	April-July	195	168 ^m
	257	124	April-Sept.	211	182 ^m
Grande Ronde at La Grande	197	95	March-July	180	207
	157	90	April-Sept.	157	175
Hurricane near Joseph	50	106	April-Sept.	54	47
Imnaha at Imnaha	343	105	April-Sept.	295	327
Lostine near Lostine	127	102	April-Sept.	144	125
Powder near Baker	66	110	April-July		60
	69	111	April-Sept.		62
Wallowa, East Fork near Joseph ^d	12.9	102	March-Sept.		12.7
	12.1	101	April-Sept.		12.0

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Burnt, Powder	2	104	127
Grande Ronde, Catherine Cr., Imnaha River	3	100	116

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Thief Valley	17.4	17.4	17.4	- -
Unity	25.2	18.3	16.1	11.9
Wallowa Lake	37.5	21.6	13.4	22.4
Phillips Lake	73.5	^b	35.7	- -

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Burnt River	4	84	113
Grande Ronde River above La Grande	4	102	52
Powder River	5	104	128
Wallowa, Imnaha, Catherine Creek	6	107	118

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

OREGON

as of

MARCH 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

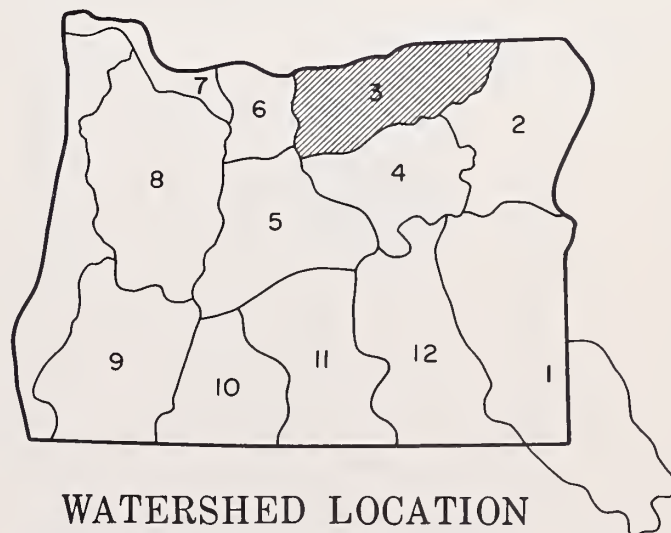
GENERAL OUTLOOK

AVERAGE TO BELOW AVERAGE WATER SUPPLIES ARE IN PROSPECT FOR THE SPRING AND EARLY SUMMER OF 1971, WITH SHORTAGES DEVELOPING LATER IN THE SEASON ON STREAMS DRAINING INTO THE LOWER UMATILLA BASIN. THE SNOW-PACK WAS DOWN TO 74 PERCENT OF AVERAGE ON UPPER McKAY CREEK AND NEAR AVERAGE ON THE WALLA WALLA DRAINAGE. PRECIPITATION IN THE AREA WAS ONLY 68 PERCENT OF AVERAGE DURING FEBRUARY. SOIL MOISTURE WAS NEAR AVERAGE. COLD SPRINGS AND McKAY RESERVOIRS WERE HOLDING SLIGHTLY ABOVE AVERAGE AMOUNTS OF WATER ON MARCH 1. THE UMATILLA AT PENDLETON FLOWED 108 PERCENT OF AVERAGE DURING MARCH.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Walla Walla River, No. Fork	Average	Average
Walla Walla River, So. Fork	Average	Average
Walla Walla River, Main	Average	Average
Walla Walla River, Little	Average	Average
Couse Creek	Average	Average
Dry Creek	Average	Average
Pine Creek	Average	Average
Umatilla River, Main	Average	Fair
Wildhorse Creek	Average	Average
Umatilla R. (Cold Springs Reservoir)	Average	Fair
Umatilla R. (McKay Res.)	Average	Average
McKay Creek	Fair	Fair
Birch Creek	Fair	Fair
Butter Creek	Fair	Fair
Willow Creek	Fair	Fair
Rhea Creek	Fair	Fair
Rock Creek (John Day tributary)	Average	Average



WATERSHED LOCATION

Report prepared by
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PORTLAND, OREGON 97205

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Birch Creek at Rieth	20	83	March-July		24.3
Butter Creek near Pine City	14.8	80	April-Sept.		18.4
McKay near Pilot Rock	9.5	77	March-July		12.4
	20	74	April-July		27
Umatilla near Gibbon	21	75	April-Sept.		28
	92	93	March-Sept.		99
	77	96	April-Sept.		80
Umatilla at Pendleton	189	91	March-Sept.	212	208
	138	88	April-Sept.	159	155
Walla Walla, North Fork near Milton	21	105	March-Sept.		20
	16	100	April-Sept.		16.0
Walla Walla, South Fork near Milton	76	96	March-Sept.		79
	64	96	April-Sept.		67

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value ⁱ
Umatilla at Pendleton	550	June 14	June 22

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Cold Springs	50.0	42.0	35.6	40.3
McKay	73.8	41.3	66.2	35.5

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Umatilla, Walla Walla, McKay Creek	3	96	96

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
McKay Creek	3	82	53
Umatilla River	3	85	75
Walla Walla River	2	82	95

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK UPPER JOHN DAY WATERSHEDS OREGON

as of

MARCH 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

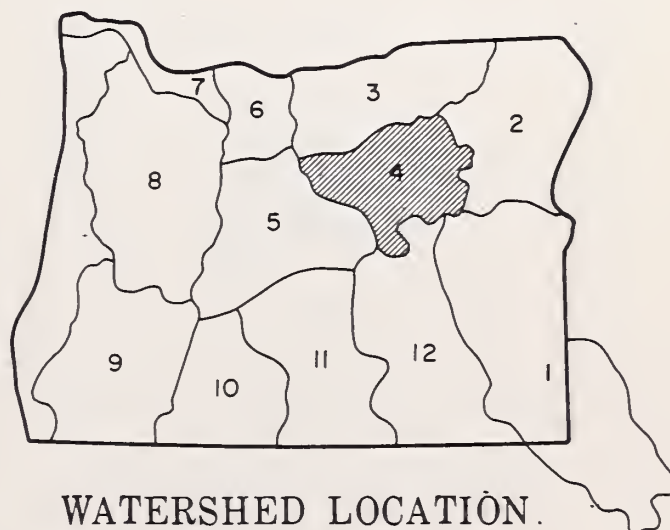
GENERAL OUTLOOK

NEAR AVERAGE TO ABOVE AVERAGE WATER SUPPLIES ARE FORECAST FOR WATER USERS IN THE JOHN DAY BASIN. THE SNOWPACK WAS REDUCED TO 90 PERCENT OF AVERAGE OVER THE BASIN. FEBRUARY PRECIPITATION WAS ONLY 64 PERCENT OF NORMAL. WATERSHED SOILS ARE WELL WETTED AND WILL ENHANCE RUNOFF FROM SPRING PRECIPITATION. THE JOHN DAY RIVER AT SERVICE CREEK FLOWED 114 PERCENT OF AVERAGE DURING FEBRUARY.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Beech Creek	Excellent	Average
Beech Creek-Fox-Long Cr.	Excellent	Average
Bridge-Mountain Creeks	Average	Average
Camas Creek	Average	Average
Cherry Creek	Average	Average
Indian-Pine Creeks	Average	Average
John Day River, Main Fork	Excellent	Average
John Day River, Mid. Fork	Excellent	Average
John Day River, N. Fork	Excellent	Average
John Day River, S. Fork	Excellent	Average
Monument-Kimberly	Excellent	Average
Strawberry Creek	Average	Average



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average
Camas Creek near Ukiah	42	98	March-July		43
	32	91	April-Sept.		35
John Day at Prairie City	55	108	March-July		51
	49	107	April-Sept.		46
John Day, Middle Fork at Ritter	160	118	March-July		135
	140	121	April-Sept.		116
Strawberry near Prairie City	7.9	100	March-July		7.9
	8.4	100	April-Sept.		8.4
John Day, North Fork at Monument	780	114	March-July		682
	645	110	April-Sept.		589

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
John Day abv. Dayville	7	103	114
John Day, North Fork	2	107	114

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
John Day, North Fork	6	82	93
John Day abv. Dayville	4	81	90

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK UPPER DESCHUTES, CROOKED WATERSHEDS OREGON

as of

MARCH 1, 1971



U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

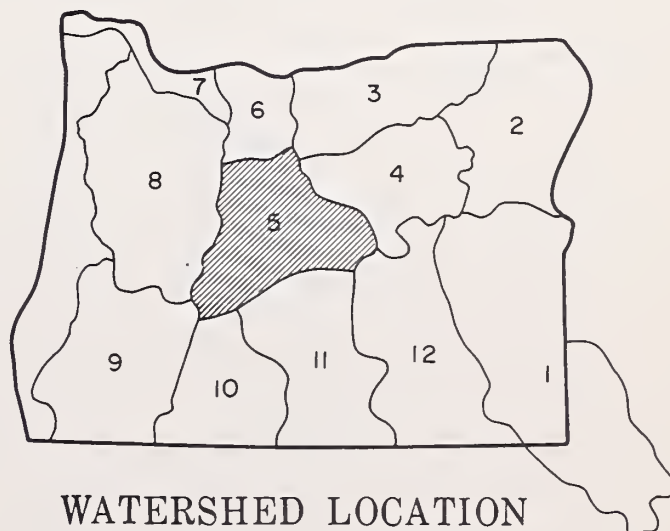
GENERAL OUTLOOK

AVERAGE TO ABOVE AVERAGE WATER SUPPLIES ARE IN PROSPECT FOR WATER USERS IN THE AREA. THE SNOWPACK RANGED FROM 90 PERCENT OF AVERAGE ON THE CROOKED-POCHOCO WATERSHEDS TO 128 PERCENT ON THE DESCHUTES ABOVE WICKIUP. WATERSHED SOILS ARE WET AND WILL ENHANCE RUNOFF. FROM SPRING PRECIPITATION. FEBRUARY PRECIPITATION WAS 91 PERCENT OF NORMAL DURING FEBRUARY. CRANE PRAIRIE, CRESCENT LAKE AND WICKIUP RESERVOIRS HELD 90 PERCENT OF THE AVERAGE STORAGE ON MARCH FIRST. PRINEVILLE AND OCHOCO RESERVOIRS HELD 122 PERCENT OF AVERAGE. THE DESCHUTES AT MOODY FLOWED 95 PERCENT OF THE MARCH 1 AVERAGE.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Arnold Irrigation District	Average	Average
Bear Creek	Average	Fair
Beaver Creek	Average	Fair
Camp Creek	Average	Fair
Central Ore. Irrig. Dist.	Average	Average
Crooked River	Average	Average
Deschutes River	Average	Average
Hay-Trout Creeks	Average	Fair
Lone Pine Irrig. Dist.	Average	Average
Mill Creek	Average	Fair
North Unit Irrig. Dist.	Average	Fair
Ochoco Creek	Average	Fair
Sisters Irrigation Dist.	Average	Average
Snow Creek Irrigation Dist.	Average	Average
Squaw Creek Irrig. Dist.	Average	Average
Swalley Ditch	Excellent	Excellent
Tumalo Project	Average	Average
Walker Basin Irrig. Dist.	Average	Average



WATERSHED LOCATION

Report prepared by

T.A. GEORGE AND H.M. VANCE

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Beaver Creek near Paulina	32	97	March-July		33
	17.3	86	April-Sept.		20
Crane Prairie Reservoir total Inflow ^d	119	121	March-July		98
	150	119	April-Sept.		126
Crescent at Crescent Lake ^d	28	108	March-July		26
	32	114	April-Sept.		28
Crooked near Post above Prineville Reservoir	134	96	March-July		140
	97	96	April-Sept.		101
Deschutes at Benham Falls ^d	430	109	April-July		393
	635	106	April-Sept.		596
Deschutes below Snow Creek	84	115	March-Sept.		73
	75	114	April-Sept.		66
Deschutes, Little near Lapine ^d	120	122	March-July		98
	120	126	April-Sept.		95
Ochoco Reservoir net Inflow	28	93	March-July		30
	20	87	April-Sept.		23
Odell near Crescent	36	120	April-Sept.		30
Squaw near Sisters	54	106	April-Sept.		51
Tumalo near Bend ^d	56	114	April-Sept.		49

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value ⁱ
Crane Prairie net Inflow	300	*	July 15
Deschutes at Bend	1500	*	July 1
Little Deschutes near La-Pine	400	June 22	June 7
	200	July 23	July 8
*Forecast issued April 1.			

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Crane Prairie	55.3	45.6	45.0	46.6
Crescent Lake	86.9	46.0	41.4	49.2
Ochoco	47.5	40.5	40.7	27.5
Prineville	153.0	111.9	119.7	97.4
Wickiup	200.0	156.0	162.2	178.3

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Crooked R., Upper Deschutes River	3	103	107

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Crooked, Ochoco	4	98	92
Deschutes abv. Wickiup	3	146	122
Little Deschutes	4	164	128
Tumalo & Squaw Crs.	3	145	129

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

OREGON

as of

MARCH 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

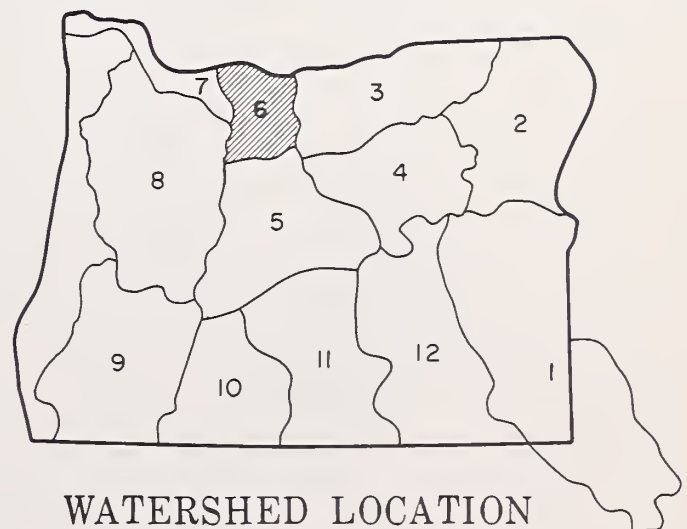
GENERAL OUTLOOK

ABOVE AVERAGE TO EXCELLENT WATER SUPPLIES ARE THE PROSPECT FOR WATER USERS IN THE HOOD RIVER VALLEY AND LOWER DESCHUTES AREA DURING THE COMING IRRIGATION SEASON. THE MOUNTAIN SNOWPACK IS 111 TO 136 PERCENT OF AVERAGE, DOWN ABOUT 25 PERCENT FROM LAST MONTH. PRECIPITATION WAS 73 PERCENT OF AVERAGE DURING FEBRUARY. WATERSHED SOILS WERE HOLDING AVERAGE AMOUNTS OF WATER ON MARCH 1. CLEAR LAKE (WASCO) RESERVOIR HELD 117 PERCENT OF AVERAGE AMOUNTS OF WATER ON MARCH 1.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Aldridge Ditch (Tony Creek)	Excellent	Excellent
Badger Creek	Excellent	Average
Dee Irrigation District	Excellent	Excellent
East Fork Irrig. Dist.	Excellent	Excellent
Farmers Irrigation Dist.	Excellent	Excellent
Hood River Irrigation Dist.	Excellent	Excellent
Juniper Flat	Excellent	Excellent
Middle Fork Irrig. Dist.	Excellent	Excellent
Mile Creeks	Excellent	Average
Mill Creek	Excellent	Average
Mount Hood Irrig. Dist.	Excellent	Excellent
Rock-Gate-Threemile Creeks	Excellent	Average
Tygh Creek	Excellent	Excellent
White River	Excellent	Excellent



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Hood River near Hood River ^d	324	115	April-July		282
	370	110	April-Sept.		336
Hood, West Fork near Dee	163	116	April-July		140
	185	115	April-Sept.		161
White below Tygh Valley	141	110	April-July		128
	158	110	April-Sept.		144

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value ⁱ
Clear Branch Inflow	46*	July 15-31	

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Clear Lake (Wasco)	11.9	4.1	6.2	3.5

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Hood River, Mile Creeks	1	101	---

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Hood River	6	141	136
Mile Creeks	3	76	111
White River	3	133	122

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK LOWER COLUMBIA WATERSHEDS OREGON

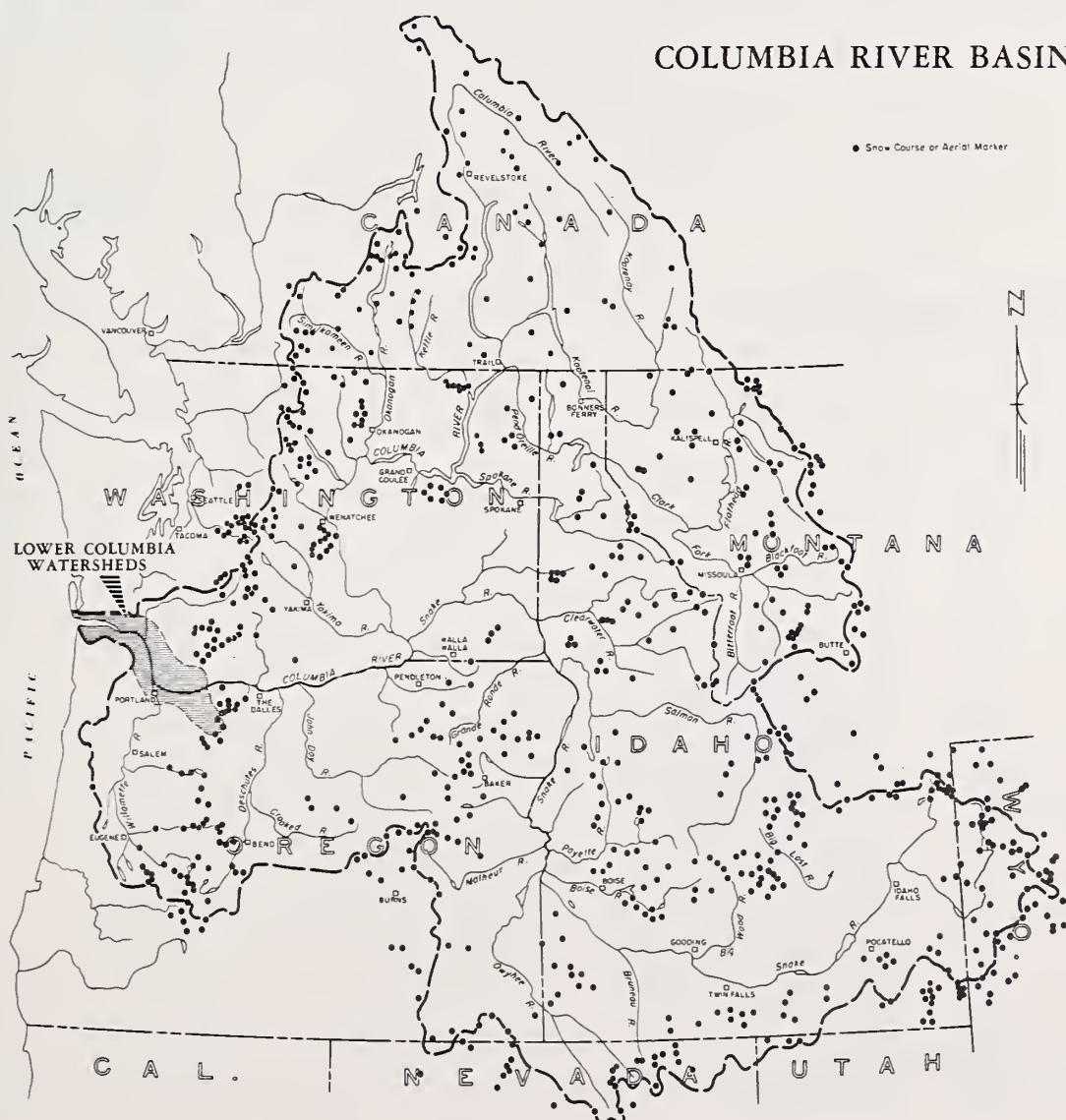
as of

MARCH 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

ABOVE AVERAGE WATER SUPPLIES ARE THE OUTLOOK FOR THE MAIN STEM OF THE COLUMBIA RIVER. THE CANADIAN SNOWPACK IS 105 TO 125 PERCENT OF AVERAGE. IN THE U.S. PORTION OF THE BASIN THE SNOWPACK IS AVERAGE TO MUCH ABOVE AVERAGE IN ALL EXCEPT THE OCHOCO AND UMATILLA DRAINAGES IN OREGON, WHICH ARE 75 PERCENT OF AVERAGE. FEBRUARY WAS WARM AND DRY DURING THE FIRST THREE WEEKS AND THREE TO FIVE FEET OF NEW SNOW FELL ON THE CASCADES OF WASHINGTON AND OREGON DURING THE LAST WEEK. THE RIVER STAGE OF THE LOWER COLUMBIA WILL BE ABOVE AVERAGE FOR MAY AND JUNE.



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SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average i
Sandy River	2	134	122

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average i
Columbia at The Dalles ^d	86,500	119	April-June		72,406
	123,000	117	April-Sept.		105,176
Sandy River near Marmot	399	111	April-July		359
	454	110	April-Sept.		413

HISTORICAL DATA (Columbia River at The Dalles)

YEAR	STREAMFLOW ^d (1,000 A.F.)			PEAK (1,000 c.f.s.)	DATE
	APR. - SEPT.	APR. - JUNE	MAY - JUNE		
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23
1960	97,000	64,000	48,000	442	June 6
1961	101,400	74,400	64,000	699	June 8
1962	94,600	64,100	49,200	460	June 5
1963	87,000	56,300	46,200	437	June 18
1964	109,020	70,739	61,313	662	June 18
1965	114,137	80,024	62,477	520	June 9
1966	87,268	58,120	45,922	396	June 12
1967	107,771	72,903	65,112	622	June 10
1953-67 Avg.	105,181	72,408	59,689	574	

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

VANCOUVER GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s.)	DRAINAGE DISTRICT PUMPHOUSE						
		SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES						
		118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	943	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	897	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	853	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	811	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	771	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	733	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	697	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	662	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	628	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	595	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20 (1954)	564	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	534	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	501	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	479	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	452	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records.

WATER SUPPLY OUTLOOK WILLAMETTE WATERSHEDS OREGON

as of

MARCH 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

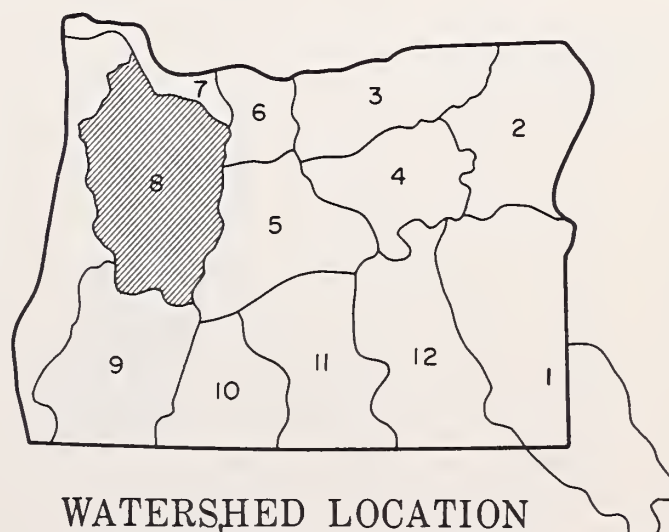
GENERAL OUTLOOK

WILLAMETTE VALLEY WATER USERS WILL EXPERIENCE EXCELLENT WATER SUPPLIES THIS SUMMER. THE SNOW COVER IN THE COAST RANGE AND THE CASCADES IS WELL ABOVE AVERAGE FOR THIS TIME OF YEAR. LATE FEBRUARY STORMS BROUGHT ACCUMULATION OF 3 TO 5 FEET OF NEW SNOW ON AN ALREADY ABOVE AVERAGE SNOWPACK. SOILS ARE WELL WETTED AND WILL BENEFIT THE SNOW MELT RUNOFF. PRECIPITATION IN FEBRUARY WAS 94 PERCENT OF AVERAGE AND HAS BEEN 20 PERCENT ABOVE NORMAL SINCE NOVEMBER. RESERVOIR STORAGE IS WELL ABOVE AVERAGE. STREAMFLOW WILL BE 110 TO 125 PERCENT OF THE USUAL THIS NEXT SPRING AND SUMMER.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Calapooya	Excellent	Average
Clackamas	Excellent	Excellent
McKenzie	Excellent	Excellent
Molalla	Excellent	Average
Santiam, North	Excellent	Excellent
Santiam, South	Excellent	Excellent
Willamette, Coast Fork	Excellent	Excellent
Willamette, Middle Fork	Excellent	Excellent



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Clackamas at Big Bottom	150	112	April-July		134
	177	107	April-Sept.		166
Clackamas at Estacada	774	112	April-July		689
	881	110	April-Sept.		800
Clackamas above Three Lynx	574	111	April-July		517
	671	110	April-Sept.		610
McKenzie at McKenzie Bridge	511	110	April-July		465
	660	107	April-Sept.		614
McKenzie near Vida	1200	110	April-July		1087
	1430	108	April-Sept.		1321
McKenzie, South Fork near Rainbow	279	126	April-July		221
	306	121	April-Sept.		252
Oak Grove Fork above Power Intake	145	116	April-July		125
	193	118	April-Sept.		163
Row near Dorena	134	126	April-July		106
	138	125	April-Sept.		110
Santiam, North at Mehama ^d	975	122	April-July		800
	1090	121	April-Sept.		901
Santiam, South at Waterloo	685	115	April-July		596
	718	113	April-Sept.		633
Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge ^d	853	118	April-July		725
	950	115	April-Sept.		828
Willamette, No. Fk. of Mid. Fk. near Oakridge	231	117	April-July		198
	249	114	April-Sept.		219
Willamette at Salem ^d	5300	113	April-July		4696
	5800	112	April-Sept.		5199

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Blue River	85.6*	47.9	- -	- -
Cottage Grove	30.0*	21.1	8.3	9.3
Cougar	155.2*	85.9	51.7	- -
Detroit	299.9*	155.6	132.8	94.9
Dorena	70.5*	48.2	18.7	21.1
Fall Creek	115.0*	65.5	4.2	- -
Fern Ridge	94.2*	49.4	36.4	33.4
Foster	30.0*	22.8	7.4	- -
Green Peter	270.0*	133.4	109.2	- -
Hills Creek	200.0*	118.9	95.4	63.3
Lookout Point	337.2*	194.4	128.4	116.9
Timothy Lake	61.7	59.9	59.1	47.8
*Multiple purpose reservoir--space reserved primarily for flood runoff.				

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Clackamas River	2	179	139
McKenzie River	3	284	152
Row River	2	289 ^e	171 ^e
Santiam River	4	265	189
Willamette, Mid. Fk.	5	197	134
^e Estimated.			

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK ROGUE, UMPQUA, WATERSHEDS OREGON

as of

MARCH 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

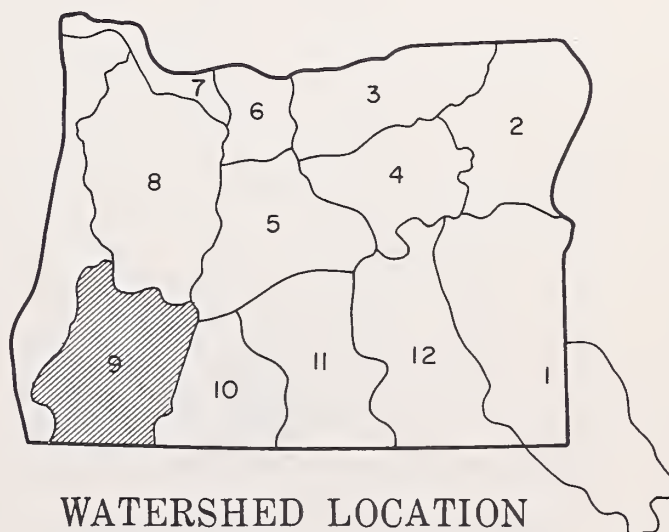
GENERAL OUTLOOK

EXCELLENT TO NEAR AVERAGE IS THE WATER SUPPLY OUTLOOK FOR THE ROGUE AND UMPQUA VALLEYS. RESERVOIRS ARE STORING ABOVE AVERAGE AMOUNTS AND WILL PROVIDE USERS WITH EXCELLENT SUPPLIES. LATE FEBRUARY STORMS BROUGHT HEAVY AMOUNTS OF SNOW TO THE MOUNTAINS. SNOW COURSES MEASURED BEFORE THE HEAVY SNOWFALL STARTED WERE BELOW AVERAGE, WHILE THOSE MEASURED DURING THE STORM WERE ABOVE AVERAGE. PRECIPITATION DURING THE MONTH WAS 94 PERCENT OF NORMAL. SOILS ARE WETTER THAN USUAL. MOST STREAMS WILL FLOW IN THE 100 TO 120 PERCENT OF AVERAGE RANGE NEXT SUMMER.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Althouse Creek	Average	Average
Applegate River, Big	Average	Average
Applegate River, Little	Average	Average
Ashland Creek	Excellent	Average
Butte Creek, Big	Excellent	Average
Butte Creek, Little	Excellent	Average
Cow Creek	Average	Average
Deer Creek	Average	Average
Elk Creek	Average	Average
Emigrant Creek (abv. Res.)	Excellent	Average
Evans Creek	Average	Average
Gold Hill Irrigation Dist.	Excellent	Average
Grants Pass Irrig. District	Excellent	Average
Grave Creek	Average	Average
Illinois River, East Fork	Average	Average
Illinois River, West Fork	Average	Average
Jump-off-Joe Creek	Average	Average
Neil Creek	Average	Average
Red Blanket Creek	Excellent	Average
Rogue River	Excellent	Average
Sucker Creek	Average	Average
Table Rock Irrig. Dist.	Excellent	Average
Thompson Creek	Average	Average
Wagner Creek	Average	Average
Williams Creek	Average	Average



WATERSHED LOCATION

Report prepared by
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STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Applegate near Copper	135	96	April-Sept.		140
Clearwater above Trap Creek ^d	70	96	April-Sept.		73
Fourmile Lake net Inflow ^d	6.7	140	March-Sept.		4.8
	6.0	146	April-Sept.		4.1
Hyatt Reservoir net Inflow ^d	6.7	129	April-Sept.		5.2
Illinois River near Kerby	145	95	April-July		205
	200	95	April-Sept.		211
Little Butte, N. Fk. at Fish Lk. nr. Lake Cr. ^d	13.0	90	April-Sept.		14.4
Little Butte, South Fork near Lake Creek	40	121	April-July		33
Rogue above Prospect	321	119	April-July		269
	376	115	April-Sept.		326
Rogue, South Fork near Prospect ^d	72	116	April-July		62
	84	114	April-Sept.		74
Rogue River below South Fork	600	105	April-July		570 ^h
	745	105	April-Sept.		708 ^h
Rogue at Raygold near Central Point	818	105	April-July	537	781
	987	105	April-Sept.	672	941
Rogue at Grants Pass	920	98	April-Sept.		940
Umpqua, No. blw. Lemolo Res. nr Toketee Falls ^d	186	106	April-Sept.		176

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value ⁱ
Little Butte Creek, South Fork	100	June 2	May 2 ^g
Rogue at Raygold	1200	Sept. 3	Aug. 7

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Emigrant Lake	39.0	28.3	31.9	28.3*
Fish Lake	7.8	6.0	5.8	5.7
Fourmile Lake	16.1	8.5	11.2	9.9
Howard Prairie	60.0	56.1	56.1	26.1
Hyatt Prairie	16.1	14.9	14.8	10.7
*Average for years of record (in base period) after reconstruction.				

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Applegate	3	97	82
Bear Creek	1	—	158
Butte Creek	4	327	142
Illinois River	3	150	66
North Umpqua	3	281	126
Rogue River	6	148	115

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK KLAMATH WATERSHEDS OREGON

as of

MARCH 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

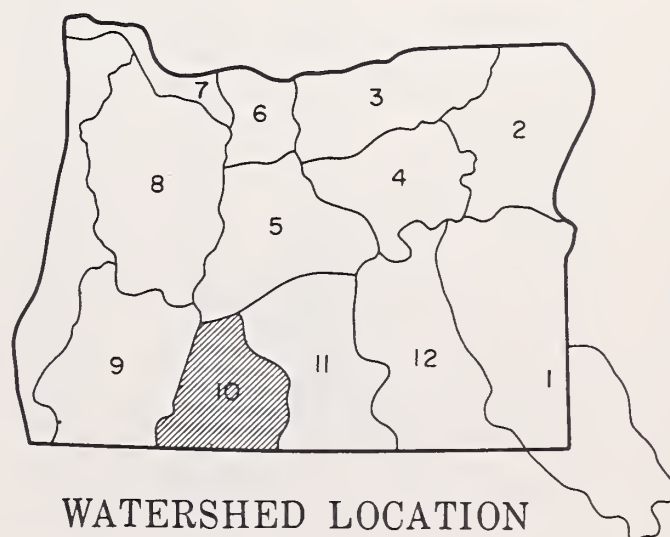
GENERAL OUTLOOK

EXCELLENT TO AVERAGE IS THE WATER SUPPLY OUTLOOK FOR KLAMATH COUNTY. RESERVOIR STORAGE IS ABOVE AVERAGE, CLOSE TO LAST YEAR'S EXCELLENT AMOUNTS, AND WILL PROVIDE PLENTY OF WATER TO USERS WITH ACCESS. THE SNOW COVER IS NEAR 110 PERCENT EXCEPT IN THE EASTERN PART OF THE COUNTY WHERE IT IS NEAR 70 PERCENT OF AVERAGE. SOILS ARE WETTER THAN USUAL AND SHOULD BENEFIT THE SNOWMELT RUNOFF. PRECIPITATION DURING FEBRUARY WAS 76 PERCENT OF AVERAGE, REFLECTING THE DROP IN THE SNOW-PACK FROM LAST MONTH. MOST STREAMS WILL FLOW NEAR NORMAL AMOUNTS THIS SUMMER. LOW ELEVATION STREAMS IN THE EASTERN PART OF THE COUNTY WILL PRODUCE BELOW AVERAGE AMOUNTS.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Ft. Klamath Valley	Average	Average
Lost River (Clear Lake)	Excellent	Average
Lost River (Gerber)	Excellent	Average
Lost River (Willow Res.)	Excellent	Average
Sprague River	Average	Fair
Upper Klamath Lake	Excellent	Average
Williamson River	Average	Average



WATERSHED LOCATION

Report prepared by
T.A. GEORGE AND H.M. VANCE
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Clear Lake Reservoir Inflow ^k	60	94	March-June		64
Gerber Reservoir Inflow	24	75	March-June		32
Sprague near Chiloquin	310	104	March-July		299
	288	97	April-Sept.		296
Upper Klamath Lake net Inflow	673	96	March-July	473	701
	610	98	April-Sept.	345	619
Williamson below Sprague River	510	100	March-July		510
	475	100	April-Sept.		475

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Upper Klamath	2	95	108

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Clear Lake	440.2	341.3	352.6	227.3
Gerber	94.0	79.6	81.7	48.6 ^m
Upper Klamath Lake	584.0	446.3	488.5	421.5

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Lost River	4	104	88
Sprague River	3	130	100
Upper Klamath	8	149	97
Williamson River	3	161	108

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK LAKE COUNTY, GOOSE LAKE WATERSHEDS OREGON

as of

MARCH 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

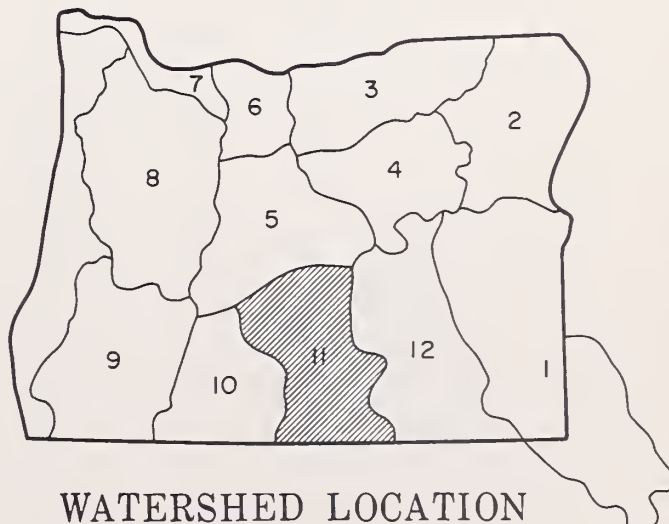
GENERAL OUTLOOK

ABOVE AVERAGE TO NEAR AVERAGE IS THE WATER SUPPLY OUTLOOK FOR LAKE COUNTY THIS COMING SUMMER. STORED WATER SUPPLIES ARE EXCELLENT WITH PRINCIPAL RESERVOIRS NEARLY FULL, A SITUATION THAT IS SIMILAR TO LAST YEAR AT THIS TIME. NEAR AVERAGE SUPPLIES WILL BE AVAILABLE FOR USERS DEPENDENT ON DIRECT DIVERSION. THE SNOW COVER IS NEAR NORMAL ON MOST WATERSHEDS. SOME LOW ELEVATION WATERSHEDS HAVE ONLY A FAIR SNOWPACK. PRECIPITATION FOR FEBRUARY WAS POOR AND 44 PERCENT OF AVERAGE. MOST STREAMS WILL FLOW NEAR NORMAL EXCEPT FOR THOSE AT LOWER ELEVATIONS WHICH WILL BE BELOW NORMAL.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Chewaucan River	Average	Fair
Crooked Creek	Average	Fair
Deep Creek	Average	Average
Dry Creek	Average	Fair
East Side Goose Lake	Average	Average
Guano Lake	Average	Fair
Honey Creek	Average	Average
Lakeview Water Users Assn.	Excellent	Excellent
Rock Creek (Hart Mountain)	Average	Fair
Silver-Buck Creeks	Average	Average
Summer Lake	Average	Fair
Thomas Creek	Average	Fair
Twentymile Creek	Fair	Fair
Warner Lakes	Fair	Fair



WATERSHED LOCATION

STREAMFLOW FORECASTS

STREAMFLOW FORECASTS	THIS YEAR			PAST RECORD	
BASIN, STREAM and/or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average i
Chewaucan near Paisley	91	100	March-July		91
Deep above Adel	74	104	March-July		71
Drews Reservoir net Inflow ^d	39	85	March-July		46
Honey Creek near Plush	18.0	100	March-July		18.0
Silver Creek near Silver Lake	21	100	March-July		21
Twentymile near Adel	19	79	March-July		24

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average m
Chewaucan, Silver Creek, Drew Creek	1	89	107
Honey, Deep, 20-mile Crs.	1	107	107

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average i
Cottonwood	8.7	7.6	8.7	3.2*
Drews	63.0	61.8	63.2	38.3
Thompson Valley	19.5	17.8	- -	- -
*Average for years of record (in base period) after reconstruction.				

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average i
Chewaucan River	3	127	98
Deep Creek	3	89	110
Drew Creek	3	173	82
Honey Creek	3	100	91
Silver Creek	3	450	108
Twentymile Creek	3	88	68

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-57 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK HARNEY BASIN WATERSHEDS OREGON

as of

MARCH 1, 1971



U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

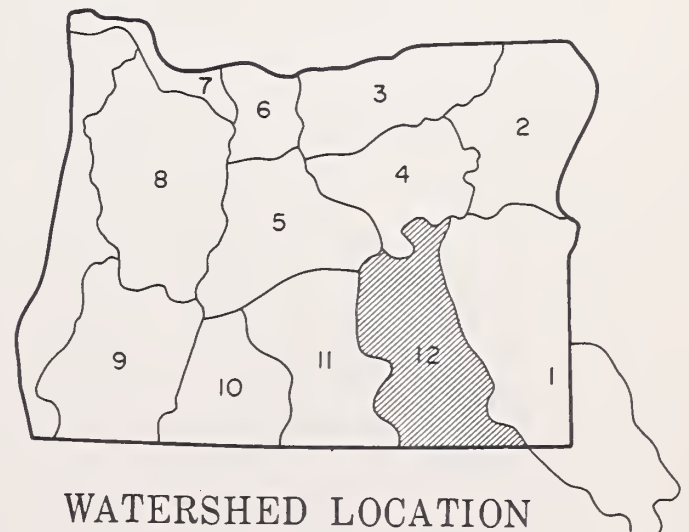
GENERAL OUTLOOK

MOST OF HARNEY COUNTY WILL HAVE NEAR AVERAGE WATER SUPPLIES THIS SUMMER. SOME SHORTAGES WILL OCCUR ON STREAMS SUCH AS RIDDLE CREEK WHERE THE SNOW MELTED AND RAN OFF IN JANUARY. SNOW COVER ON THE HIGHER WATERSHEDS SUCH AS THE SILVIES AND DONNER UND BLITZEN ARE A LITTLE ABOVE AVERAGE. SOILS ARE WELL WETTED AND IN BETTER CONDITION THAN LAST YEAR AT THIS TIME. FEBRUARY WAS A VERY DRY MONTH AS THE PRECIPITATION WAS ONLY 39 PERCENT OF AVERAGE. MOST STREAMS WILL FLOW AVERAGE TO ABOVE AVERAGE AMOUNTS THIS SUMMER EXCEPT FOR THE LOWER ELEVATION ONES, AND THEY WILL PRODUCE HALF OF NORMAL OR LESS.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Catlow Valley	Average	Fair
Cow Creek	Excellent	Average
Donner und Blitzen River	Average	Average
Mill-Coffeepot Creeks	Excellent	Average
Rattlesnake Creek	Excellent	Average
Silver Creek	Excellent	Average
Silvies River	Excellent	Average
Soldier-Prather Creek	Average	Fair
Trout Creek	Fair	Poor
Whitehorse Creek	Fair	Poor



WATERSHED LOCATION

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Donner und Blitzen near Frenchglen	57	100	March-July	52	57
	55	100	April-Sept.	51	55
Silver near Riley	18.0	100	April-July		17.9
Silvies near Burns	128	127	March-July		101
	106	128	April-Sept.		83
Trout near Denio	4.3	56	March-July		7.7
	4.1	55	April-Sept.		7.5

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Silvies River, Silver Cr.	3	102	107
Trout Cr., Donner und Blitzen River	2	112	122

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Donner und Blitzen R.	4	96	108
Silver Creek	3	79	88
Silvies River	4	80	106
Trout Creek	3	27 ^e	25 ^e
^e Estimated.			

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

BASIC DATA SUPPLEMENT 1

MARCH 1, 1971

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. i

OWYHEE, MALHEUR WATERSHEDS					
Antelope Ridge (Ida.)	2/26	22	7.5	6.3	4.2 ^h
Battle Creek ^e (Ida.)	Late report			0.4	3.1 ^m
Bear Creek ^e (Nev.)	3/2	72	22.1	18.8	15.3 ^h
Big Bend (Nev.)	2/23	27	8.3	9.2	6.9
Blue Mountain Springs	2/24	45	14.8	19.8	13.7
Blue Mtn. Springs Pillow	2/24	39	13.3	-	-
Buck Pasture ^e	Late report			0.0	2.3 ^m
Buckskin, Lower (Nev.)	2/23	20	7.1	8.2	6.7
Buckskin, Upper (Nev.)	2/23	14	4.7	13.1	7.2 ^h
Bull Basin ^e (Ida.)	Late report			0.0	1.1 ^m
Bully Creek ^e	Late report			2.1	2.7 ^m
Call Meadow ^e	Late report			8.6	3.5 ^m
Columbia Basin ^e (Nev.)	3/2	21	6.1	6.6	-
Cottonwood-Indian ^e	Late report			0.0	0.7 ^m
Crane Prairie	2/23	27	9.0	11.0	8.2
Crow Camp ^e	Late report			0.0	1.0 ^m
Disaster Peak (Nev.)	2/25	28	10.8	12.3	12.6
Eldorado Pass	2/26	11	3.8	0.7	2.7 ^h
Fawn Creek ^e (Nev.)	3/2	9	2.6	2.6	-
Fish Creek	3/1	72	25.9	24.9	19.6 ^h
Flag Prairie ^e	Late report			7.0	3.4 ^m
Fox Creek (Nev.)	3/2	41	12.3	9.6	7.9 ^h
Fry Canyon (Nev.)	2/23	10	3.7	7.9	6.0
Gold Creek (Nev.)	2/23	18	5.5	6.0	4.7
Granite Peak (Nev.)	2/24	41	16.3	18.3	10.7
Hyde Pasture ^e (Ida.)	Late report			4.4	4.2 ^m
Jack Creek, Lower (Nev.)	c				
Jack Creek, Upper (Nev.)	3/2	18	5.2	5.9	8.0
Jack Peak (Nev.)	c				
Lake Creek R. S.	2/23	30	9.7	13.6	9.2
Laurel Draw (Nev.)	2/24	13	4.0	6.4	6.2 ^h
Logan Valley ^e	Late report			9.7	6.3 ^m
Lookout Butte ^e	Late report			0.0	0.2 ^m
Louse Canyon ^e	Late report			0.4	3.1 ^m
Martin Creek (Nev.)	2/23	20	7.1	9.3	7.8
Merritt Mountain ^e (Nev.)	3/2	9	2.6	7.9	-
Midas (Nev.)	3/2	3	0.9	0.0	2.5 ^h
Mud Flat (Ida.)	2/26	21	6.3	6.2	4.7 ^h
Oregon Canyon ^e	Late report			4.4	5.2 ^h
Quinn Ridge ^e (Nev.)	Late report			0.0	2.3 ^m
Red Canyon ^e (Ida.)	Late report			7.8	4.8 ^m
Rock Spring	2/24	18	5.8	5.8	4.8
Rodeo Flat (Nev.)	2/23	2	0.4	6.2	5.5
76 Creek (Nev.)	3/2	41	12.3	15.4	9.1 ^h
Silver City (Ida.)	3/2	49	15.7	15.5	12.5
Silvies	3/1	31	10.2	11.4	10.7 ^h
South Mountain #2 (Ida.)	3/2	34	12.7	13.2	9.5
Stag Mountain ^e (Nev.)	3/2	9	2.6	1.9	-
Stinking Water	2/24	T	T	0.0	2.7 ^h
Succor Creek ^e (Ida.)	Late report			4.4	5.0 ^m
Taylor Canyon (Nev.)	2/23	5	3.1	3.3	4.2
Toe Jam ^e (Nev.)	3/2	21	6.1	8.9	-
Tremewan Ranch (Nev.)	2/23	0	0.0	0.0	1.1
Triangle ^e (Ida.)	Late report			0.0	0.6 ^m
Trout Creek ^e	Late report			6.7	6.3 ^m
"V" Lake ^e	Late report			4.9	3.6 ^m
Vaught Ranch ^e (Ida.)	Late report			3.0	-
War Eagle ^e (Ida.)	Late report			29.1	-

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. i

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS					
Aneroid Lake #1	2/25	105	35.4	29.8	31.2
Aneroid Lake #2	2/25	87	33.0	24.8	26.9
Anthony Lake	2/26	70	24.8	26.5	22.4
Bald Mountain ^e (Ore.)	3/1	69	22.1	22.4	19.9 ^m
Beaver Reservoir	2/24	28	7.4	6.5	9.2
Beaver Reservoir (Alt.)	2/24	34	9.5	-	-
Big Sheep ^e	3/1	80	25.6	20.3	21.2 ^m
Blue Mtn. Summit	2/26	30	8.5	8.2	7.2
Bourne	2/25	46	15.1	18.5	13.7
County Line	2/26	11	2.5	1.9	5.4
Dooley Mountain	2/23	29	9.8	9.1	7.2
Eilertson Meadows	2/24	30	12.2	13.2	9.7
Eldorado Pass	2/26	11	3.8	0.7	2.7 ^h
Gold Center	2/25	42	14.3	15.3	11.0
Goodrich Lake	Late report			45.0	27.9 ^h
Intake House	2/24	36	11.5	11.3	-
Little Alps	2/26	40	12.6	12.7	11.2 ^h
Little Antone	2/26	21	6.8	7.2	-
Lucky Strike	2/25	30	9.2	10.7	10.7 ^h
Meacham	2/24	12	3.6	5.0	8.9
Mirror Lake ^e	3/1	192	61.4	68.4	56.5 ^m
Moss Spring	3/1	82	26.8	21.2	19.9
Power Plant	2/24	20	6.4	5.2	-
Schneider Meadows	2/26	103	37.4	32.2	26.4
Schoolmarm	2/26	5	1.1	0.9	4.6
Standley ^e	3/1	78	25.0	32.0	24.3 ^m
Taylor Green	3/1	61	19.0	16.2	14.4 ^h
Tipton	2/26	34	10.5	12.2	8.9
Tipton Snow Pillow	2/26	53	14.8	-	-
Tollgate	2/25	57	22.8	26.2	21.5
TV Ridge ^e	3/1	59	18.9	20.9	-

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

Arbuckle Mountain	2/26	22	6.9	9.6	9.6
Battle Mountain Summit	2/24	T	T	T	1.8 ^m
Blue Mountain Camp	2/25	23	9.4	13.0	12.3 ^h
Emigrant Springs	2/24	T	T	0.0	4.4
Lucky Strike	2/25	30	9.2	10.7	10.7 ^h
Meacham	2/24	12	3.6	5.0	8.9
Tollgate	2/25	57	22.8	26.2	21.5
Weston Mountain	2/25	T	T	0.0	T ^m

BASIC DATA SUPPLEMENT 1

MARCH 1, 1971

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. i

UPPER JOHN DAY WATERSHEDS					
Anthony Lake	2/26	70	24.8	26.5	22.4
Arbuckle Mountain	2/26	22	6.9	9.6	9.6
Battle Mountain Summit	2/24	T	T	T	1.8 ^m
Beech Creek Summit	2/24	13	4.3	1.4	4.4
Blue Mountain Springs	2/24	45	14.8	19.8	13.7
Blue Mtn. Springs Pillow	2/24	39	13.3	-	-
Blue Mountain Summit	2/26	30	8.5	8.2	7.2
Derr	2/21	20	6.8	7.5	8.3 ^h
East Fork Canyon ^e	Late report			-	9.0 ^m
Gold Center	2/25	42	14.3	15.3	11.0
Indian Creek Butte ^e	Late report			31.9	19.3 ^m
Izee Summit	2/25	25	6.6	9.0	7.2
Lucky Strike	2/25	30	9.2	10.7	10.7 ^h
Marks Creek	3/1	11	1.7	T	2.9
Ochoco Meadows	2/26	32	7.9	7.3	8.1
Olive Lake	3/1	57	18.8	19.4	16.5
Schoolmarm	2/26	5	1.1	0.9	4.6
Snow Mountain	2/25	38	11.6	13.7	11.0 ^h
Starr Ridge	2/28	18	5.2	6.0	4.9
Tipton	2/26	34	10.5	12.2	8.9
Tipton Snow Pillow	2/26	53	14.8	-	-
Williams Ranch		6		0.0	1.3 ^m

UPPER DESCHUTES, CROOKED WATERSHEDS

Black Pine Spring	2/26	12	2.1	1.7	3.4
Caldwell Ranch	2/25	36	10.9	4.9	11.5 ^h
Cascade Summit	3/1	120	35.3	17.6	24.0
Chemult	3/2	35	10.8	6.5	9.7
Deer Creek	2/25	66	18.4	12.0	-
Derr	2/21	20	6.8	7.5	8.3 ^h
Hogg Pass	2/26	127	45.5	28.4	33.1
Hungry Flat	3/1	30	10.2	1.0	5.3
Irish-Taylor	3/1		40.0 ^g	25.9	31.5 ^h
Irish-Taylor Pillow	3/2		43.9	-	-
Marks Creek	3/1	11	1.7	T	2.9
Mowich	2/22	14	4.2	1.2	4.8 ^h
New Crescent Lake	2/22	40	13.3	9.7	12.9
New Dutchman Flat #2	3/1	140	54.0	41.0	43.3
Ochoco Meadows	2/26	32	7.9	7.3	8.1
Snow Mountain	2/25	38	11.6	13.7	11.0 ^h
Snow Mountain Pillow	2/25	37	11.3	-	-
Tamarack	2/25	14	3.9	3.5	4.8
Tangent	3/1	79	27.2	18.3	19.8
Three Creek Butte	2/26	42	11.6	7.7	9.4 ^h
Three Creek Meadow	2/26	61	19.1	15.3	16.0
Three Creek Mdw. Pillow	2/26	85	25.5	-	-
Waldo Lake	2/23	83	30.1	18.1	25.5 ^h
Willamette Pass	2/24	112	43.7	29.2	33.7 ^h
Willamette Pass Pillow	3/2		48.8	-	-

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. i

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS					
Brooks Meadow	2/25	33	10.1	10.9	9.6 ^h
Clear Lake	2/23	24	9.4	7.8	8.2
Clear Lake (Experimental)	2/23	40	14.6	12.5	14.5 ^h
Cooper Spur	3/1	46	12.6	9.4	10.8 ^h
Cooper Spur (Alternate)	3/1	50	14.3	12.6	-
Greenpoint Reservoir	Late report			17.1	12.5
Knebal Springs	2/25	16	5.8	8.4	6.2 ^h
Parkdale	3/2	6	1.0	0.3	-
Phlox Point	2/24	140	59.5	45.3	49.5
Red Hill	3/4	150	52.5	29.2	31.0
Still Creek	2/23	67	23.6	16.6	18.4
Still Creek (Alt. #2)	2/23	61	22.5	-	-
Switchback	3/2	60	19.2	13.8	11.5 ^m
Tilly Jane	2/20	94	41.6	33.0	32.6
Ulrich Ranch Junction	2/25	12	3.9	6.8	2.1 ^m
Umbrella Falls	3/2	208	77.1	51.2	-
Upper Valley	3/1	16	2.4	4.6	-

WILLAMETTE WATERSHEDS

Cascade Summit	3/1	120	35.3	17.6	24.0
Champion	Late report			14.7	21.9
Clackamas Lake	3/1	63	16.4	8.8	10.0
Clear Lake	2/23	24	9.4	7.8	8.2
Clear Lake (Experimental)	2/23	40	14.6	12.5	14.5 ^h
Dead Horse Grade	3/2	70	21.1	2.3	15.2
Detroit Town	2/26	21	3.0	0.0	0.5
Detroit Dam	2/26	17	2.7	0.0	0.5
Golden Curry Creek	Late report			1.0	4.7
Hogg Pass	2/26	127	45.5	28.4	33.1
Lake Harriet	3/2	18	4.0	-	1.6 ^m
Laurel Mountain	Late report			0.8	-
Layng Creek	3/1	19	2.0	0.0	T
Lost Creek Ranch	3/2	38	10.3	0.0	3.0 ^h
Lund Park	3/1	24	2.4	0.0	0.2
Marion Forks	2/26	75	21.0	2.4	11.2 ^h
Marys Peak	2/26	54	16.0	0.0	9.0 ^m
Marys Peak (Alternate)				0.0	-
McCredie Springs	3/1	15	1.4	0.0	0.2
McKenzie	3/2	136	54.0	27.5	35.1
McKenzie Bridge	3/2	17	2.8	0.0	0.2
Meridian Dam	3/1	0	0.0	0.0	0.0
Mill City	2/26	7	1.8	0.0	0.0
Oakridge	3/1	3	0.3	0.0	T
Peavine Ridge	3/1		21.7 ^g	9.6	14.1 ^h
Peavine Ridge Pillow				-	-
Phlox Point	2/24	140	59.5	45.3	49.5
Railroad Overpass	3/1	18	2.0	0.0	2.4
Salt Creek Falls	3/1	83	20.5	1.8	12.8
Santiam Junction	2/26	95	29.1	9.9	19.2
Still Creek	2/23	67	23.6	16.6	18.4
Still Creek Alternate #2	2/23	61	22.5	-	-
Timothy Lake				11.2	9.6 ^m
Valsetz Summit				0.1	-
Vida	3/2	9	1.4	0.0	0.0
Waldo Lake	2/23	83	30.1	18.1	25.5 ^h
Weaver Creek	Late report			0.0	0.8
White Branch Slide	3/2	38	9.7	0.0	5.3
Whitewater Bridge	2/26	48	12.2	0.0	3.4
Willamette Pass	2/24	112	43.7	29.2	33.7 ^h
Willamette Pass Pillow	3/2		48.8	-	-

BASIC DATA SUPPLEMENT 1

MARCH 1, 1971

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. i
ROGUE, UMPQUA WATERSHEDS					
Althouse	2/26	17	4.5	0.9	6.0
Althouse #2	2/26	21	5.6	0.4	-
Annie Spring	3/2	139	45.1	36.8	36.3
Beaver Dam Creek	3/2	66	19.5	4.0	9.6
Big Red Mountain	2/25	77	25.1	26.7	26.6
Billie Creek Divide	2/25	63	19.9	12.0	18.4
Caliban	2/25	83	28.8	33.3	-
Champion		b		14.7	21.9
Cold Springs Camp	2/25	112	36.2	25.4	27.5
Cold Springs Camp Pillow	3/2		32.1	-	-
Deadwood Junction	3/2	48	12.2	T	8.7
Diamond-Crater Summit	2/22	93	35.4	23.7	30.5
Diamond-Crater Sum. Alt.	2/22	86	30.3	22.2	-
Diamond Lake	2/22	58	20.7	14.4	18.5
Fish Lake	2/25	56	16.6	4.4	11.7
Fourmile Lake	2/25	63	22.8	15.8	20.6
Grayback Peak	2/23	50	17.8	14.6	24.9
Howard Prairie	3/1	46	11.8	1.4	8.4
Hyatt Prairie	3/2	43	10.7	T	7.4
King Mountain #1	2/22	31	11.3	0.8	-
King Mountain #2	2/22	19	7.2	0.0	-
King Mountain #3	2/22	1	0.5	0.0	-
King Mountain #4	2/22	0	0.0	0.0	-
King Mountain #5	2/22	0	0.0	0.0	-
King Mountain #6	2/22	0	0.0	0.0	-
Little Red Mountain	2/25	58	17.2	20.7	21.6
Mt. Ashland Switchback	2/25	96	32.5	30.3	-
Mule Creek	2/25	24	7.2	0.0	-
North Umpqua	2/26	54	16.1	3.8	12.0
Page Mountain	2/26	7	0.9	0.0	4.3
Park Headquarters	3/2	177	60.3	51.8	47.5
Red Butte #1	2/24	40	15.4	1.1	10.8
Red Butte #2	2/24	19	7.3	0.5	7.2
Red Butte #3	2/24	9	3.2	0.0	7.2
Red Butte #4	2/24	T	T	0.0	2.4
Red Butte #5	2/24	0	0.0	0.0	T
Red Butte #6	2/24	0	0.0	0.0	0.0
Seven Lakes #2	2/23	84	33.3	34.9	32.1
Seven Mile	2/23	72	26.6	-	-
Silver Burn	2/25	55	15.2	0.2	11.3
Siskiyou Summit	2/26	26	9.0	T	5.7
Siskiyou Summit Alt. #2	2/26	28	9.6	0.8	-
Ski Bowl Road	2/25	76	28.3	22.8	-
South Fork Canal	2/25	21	5.8	0.0	1.7
Trap Creek	2/26	46	14.4	T	10.0
Whaleback	2/25	98	30.9	18.8	27.5

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. i
KLAMATH WATERSHEDS					
Annie Spring	3/2	139	45.1	36.8	36.3
Beatty (PP&L)		b		0.0	0.1 ^m
Billie Creek Divide	2/25	63	19.9	12.0	18.4
Bly Mountain	2/24	19	5.8	1.4	6.3 ^h
Bly 101 Ranch (PP&L)		b		0.0	1.0 ^m
Chemult	3/2	35	10.8	6.5	9.7
Chiloquin (PP&L)	2/28	4	0.6	0.0	0.5
Cold Springs Camp	2/25	112	36.2	25.4	27.5 ^h
Cold Springs Camp Pillow	3/2		32.1	- -	- -
Crazyman Flat ^e	2/26	22	8.4	9.4	7.7 ^m
Crowder Flat ^e (Calif.)	2/26	5	0.8	0.0	2.0 ^m
Crystal (PP&L)	2/27	26	10.5	0.0	7.6
Diamond-Crater Summit	2/22	93	35.4	23.7	30.5 ^h
Diamond-Crater Sum. Alt.	2/22	86	30.3	22.2	- -
Diamond Lake Jct. (97)	2/22	22	7.3	2.4	6.2 ^h
Dog Hollow ^e	2/26	0	0.0	0.0	0.4 ^m
Finley Corrals ^e	2/26	44	15.0	15.1	12.6 ^m
Fort Klamath (PP&L)	2/27	5	0.6	0.0	3.1
Fourmile Lake	2/25	63	22.8	15.8	20.6 ^h
Gerber	3/1	3	0.5	1.6	1.8 ^h
Harriman (PP&L)	2/28	23	7.0 ^g	0.0	2.7 ^m
Hyatt Prairie Reservoir	3/2	43	10.7	T	7.4 ^h
Kirk (PP&L)		b		- -	5.5 ^m
Lake of the Woods	2/25	30	8.1	3.4	10.7
Park Headquarters	3/2	177	60.3	51.8	47.5
Pelican Guard Station	2/25	7	0.9	0.0	3.1 ^h
Quartz Mountain	2/25	14	4.8	2.1	5.8
Quartz Mountain (Extension)	2/25	15	4.5	2.4	- -
Seven Lakes #2	2/23	84	33.3	34.9	32.1 ^h
Seven Mile	2/23	72	26.6	- -	- -
State Line ^e (Calif.)	2/26	18	5.8	2.8	7.5 ^m
Strawberry	2/25	18	5.7	4.6	6.6 ^h
Summer Rim	2/26	42	15.5	16.0	13.8
Summer Rim Snow Pillow	2/26	48	16.3	- -	- -
Sun Mountain	2/26	60	21.1	18.3	20.8
Sycan Flat ^e	2/26	22	8.4	1.8	5.9 ^m
Taylor Butte	2/24	15	4.8	1.6	5.3 ^h
LAKE COUNTY, GOOSE LAKE WATERSHEDS					
Adin Mountain (Calif.)	3/2	42	14.0	10.1	9.5
Bald Mountain (Nev.)	2/26	2	0.3	2.0	3.1
Bear Flat Meadow ^e	2/26	24	8.2	9.3	8.2 ^m
Camas Creek	2/26	27	8.5	6.6	9.5
Cedar Pass (Calif.)	3/3	43	12.9	13.0	12.3
Colvin Creek ^e	2/26	8	1.2	1.1	- -
Cox Flat ^e	2/26	12	4.1	1.4	6.5 ^m
Crowder Flat ^e (Calif.)	2/26	5	0.8	0.0	2.0 ^m
Dismal Swamp ^e (Calif.)	2/26	36	12.2	13.0	13.4 ^m
Finley Corrals ^e	2/26	44	15.0	15.1	12.6 ^m
Hart Mountain ^e	2/26	3	0.5	0.1	1.6 ^m
Little Bally Mtn. ^e (Nev.)	2/26	4	1.4	1.4	2.1 ^m
Mt. Bidwell (Calif.)		c		- -	- -
North Star (Calif.)		c		- -	- -
Patton Meadows ^e	2/26	42	14.3	16.6	12.6 ^m
Quartz Mountain	2/25	14	4.8	2.1	5.8
Quartz Mountain (Ext.)	2/25	15	4.5	2.4	- -
Sherman Valley ^e	2/26	26	8.6	9.3	10.0 ^m
Silver Creek	2/26	6	2.1	0.0	2.9
State Line ^e (Calif.)	2/26	18	5.8	2.8	7.5 ^m
Strawberry	2/25	18	5.7	4.6	6.6 ^h
Summer Rim	2/26	36	13.7	16.0	13.8
Summer Rim Snow Pillow	2/26	48	16.3	- -	- -
Sycan Flat ^e	2/26	22	8.4	1.8	5.9 ^m
Willow Creek ^e	2/26	6	0.9	0.7	3.2 ^m

BASIC DATA SUPPLEMENT 1

MARCH 1, 1971

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. i

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. i

HARNEY BASIN WATERSHEDS

Blue Mountain Springs	2/24	45	14.8	19.8	13.7
Blue Mtn. Springs Pillow	2/24	39	13.3	-	-
Buck Pasture ^e	Late	report		0.0	2.3 ^m
Buckskin Lake ^e	Late	report		0.0	0.2 ^m
Call Meadows ^e	Late	report		8.6	3.5 ^m
Crow Camp ^e	DISCONTINUED			0.0	1.0 ^m
Delintment Lake	2/24	18	5.3	8.0	6.5 ^h
Denio Creek ^e	Late	report		0.0	0.5 ^m
Disaster Peak (Nev.)	2/25	28	10.8	12.3	12.6 ⁱ
Emigrant Butte	2/24	6	2.7	3.2	4.1 ^h
Fish Creek ^e	3/1	72	25.9	24.9	19.6 ^h
Hart Mountain ^e	2/26	3	0.5	0.1	1.6 ^m
Idlewild Camp	2/24	16	4.9	5.6	4.6
Izee Summit	2/25	25	6.6	9.0	7.2
Lake Creek R. S.	2/23	30	9.7	13.6	9.2
Oregon Canyon ^e	Late	report		4.4	5.2 ^m
Rock Spring	2/24	18	5.8	5.8	4.8 ⁱ
Silvies	3/1	31	10.2	11.4	10.7 ^h
Snow Mountain	2/25	38	11.6	13.7	11.0 ^h
Snow Mountain Pillow	2/25	37	11.3	-	-
Starr Ridge	2/28	18	5.2	6.0	4.9 ⁱ
Stinking Water	2/24	T	T	0.0	2.7 ^h
Trout Creek ^e	Late	report		6.7	6.3 ^m
"V" Lake ^e	Late	report		4.9	3.6 ^m

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

BASIC DATA SUPPLEMENT 2

MARCH 1, 1971

SOIL MOISTURE

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average i
OWYHEE, MALHEUR WATERSHEDS							
Bear Creek (Nev.)	7800	72	16.8	b		10.9	11.4
Big Bend (Nev.)	6700	48	16.7	2/23	16.5	12.0	15.1
Blue Mountain Spring	5900	42	16.9	2/24	12.0	11.1	10.1
Crane Prairie	5375	48	18.2	2/23	17.6	15.5	15.9
Folly Farm	4450	30	12.5	c			
Jack Creek, Lower (Nev.)	6800	48	8.6	c			
Jordan Valley	4390	48	19.3	3/2	16.6	14.8	15.7
Mud Flat (Ida.)	5500	48	12.8	2/26	14.4	14.4 ^f	11.4
Rodeo Flat (Nev.)	6800	42	11.0	2/23	7.7	4.0	- -
Taylor Canyon (Nev.)	6200	48	15.1	2/23	14.2	12.7	13.3
Triangle (Ida.)	5150	48	16.6	c			
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS							
Blue Mountain Summit	5100	36	16.8	2/26	13.4	12.4	10.8
Dooley Mountain	5430	36	9.2	2/23	5.2	5.4	3.9
Emigrant Springs	3925	48	22.3	2/24	21.1	22.2	19.4
Ladd Summit	3730	48	18.9	2/28	13.6	14.0	10.5
Moss Springs	5850	36	25.8	2/27	16.0	14.6	- -
Tollgate	5070	48	23.6	2/25	15.4	17.1	20.1
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS							
Battle Mountain Summit	4340	48	13.8	2/24	13.8	13.0	13.0
Emigrant Springs	3925	48	22.3	2/24	21.1	22.2	19.4
Tollgate	5070	48	23.6	2/25	15.4	17.1	20.1
UPPER JOHN DAY WATERSHEDS							
Battle Mountain Summit	4340	48	13.8	2/24	13.8	13.0	13.0
Beech Creek	4800	48	21.3	2/24	12.0	17.0	13.5
Blue Mountain Spring	5900	42	16.9	2/24	12.0	11.1	10.1
Blue Mountain Summit	5100	36	16.8	2/26	13.4	12.4	10.8
Derr	5670	24	9.0	2/21	8.1	8.6	8.2
Marks Creek	4540	36	14.1	3/1	13.6	12.3	11.3
Snow Mountain	6300	48	16.7	2/25	13.9	13.6	13.8
Starr Ridge	5150	36	10.6	2/26	10.6	10.6	9.6
Williams Ranch	4500	42	17.9	2/24	17.7	17.4	17.1
UPPER DESCHUTES, CROOKED WATERSHEDS							
Derr	5670	24	9.0	2/21	8.1	8.6	8.2
Marks Creek	4540	36	14.1	3/1	13.6	12.3	11.3
Snow Mountain	6300	48	16.7	2/25	13.9	13.6	13.8
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS							
Cooper Spur	3490	72	26.4	3/1	14.4	14.2	- -
KLAMATH WATERSHEDS							
Bly Mountain	5090	42	14.0	2/27	12.3	12.3	11.3

MARCH 1, 1971

MARCH 1, 1971

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average
LAKE COUNTY, GOOSE LAKE WATERSHEDS							
Camas Creek	5720	42	14.5	2/26	13.3	12.4	12.4
Quartz Mountain	5230	48	15.3	2/25	9.0	10.1	8.4
HARNEY BASIN WATERSHEDS							
Blue Mountain Spring	5900	42	16.9	2/24	12.0	11.1	10.1
Fish Creek	7900	48	15.0	3/1	11.7	11.0	10.1
Folly Farm	4450	30	12.5	c	-	-	-
Silvies	6900	48	16.4	3/1	16.2	13.8	12.9
Snow Mountain	6300	48	16.7	2/25	13.9	13.6	13.8
Starr Ridge	5150	36	10.6	2/26	10.6	10.6	9.6
Willow-Bald	5000	24	6.6	2/24	6.6	6.2	5.2

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

BASIC DATA SUPPLEMENT 3

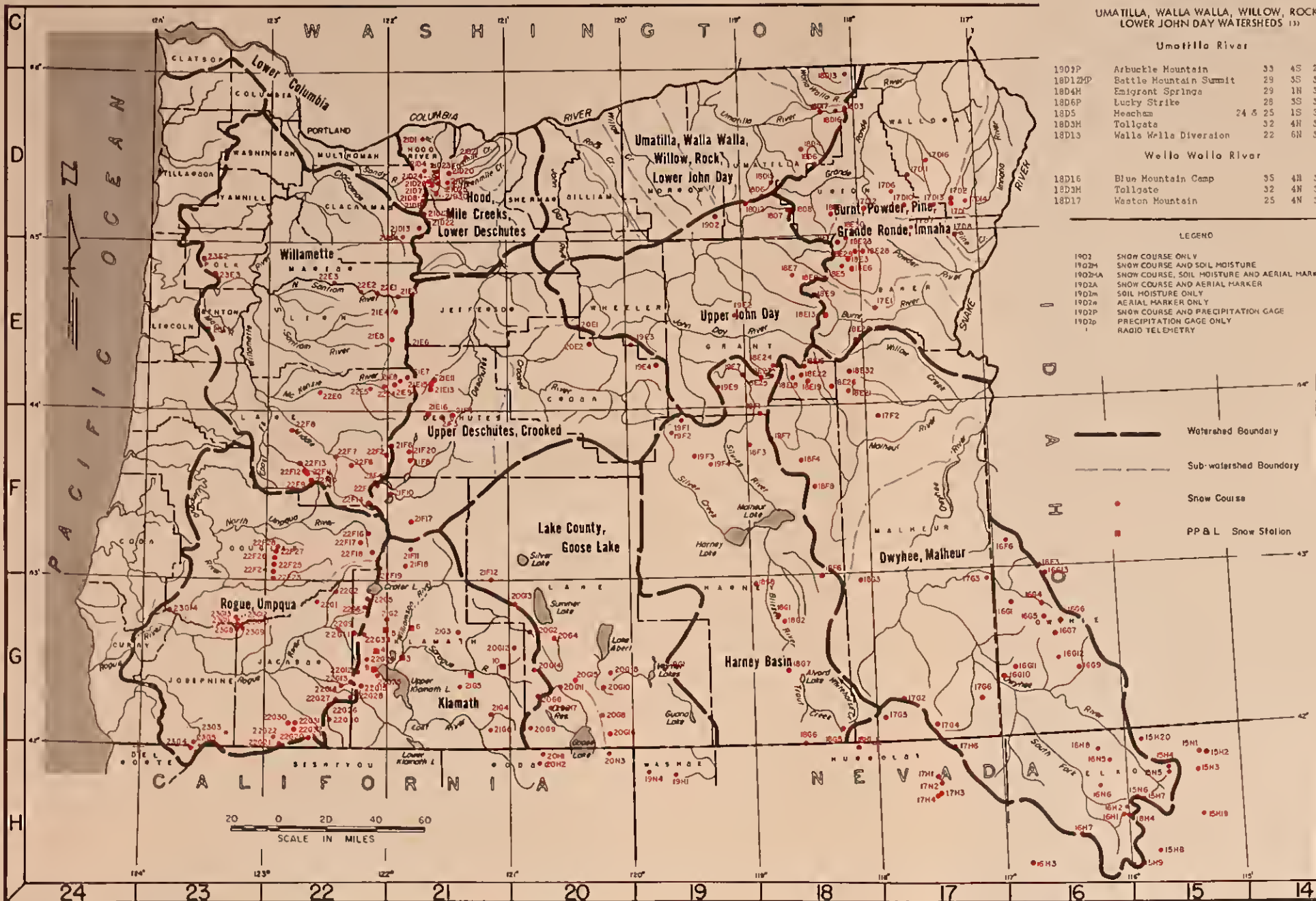
MARCH 1, 1971

PRECIPITATION (Inches)

DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	CURRENT INFORMATION		PAST RECORD	
		Date of Reading	Precipitation	Last Year	Average
Allison Work Center (Harney County)	5320	1/28 to 2/26	0.50		
Althouse (Josephine County)	4530	1/29 to 2/26	3.27		
Arbuckle Mountain (Morrow County)	5400	1/29 to 2/26	3.97		
Big Red Mountain (Jackson County)	6240	1/26 to 2/25	7.62		
Camas Creek (Lake County)	5825	1/29 to 2/26	1.40		
Eilertson Meadows (Baker County)	5400	1/26 to 2/24	0.75		
Fish Lake (Jackson County)	4865	1/28 to 2/25	0.57		
Quartz Mountain Summit (Lake County)	5530	1/28 to 2/25	0.80		
Schoolmarm (Umatilla County)	4775	1/29 to 2/26	2.10		
Silver Creek (Lake County)	4900	1/29 to 2/26	0.49		
Strawberry (Lake County)	5760	1/29 to 2/25	1.10		
Taylor Green (Union County)	5800	1/28 to 2/27	4.20		



NUMBER	NAME	LOCATION	ELEV	NUMBER	NAME	LOCATION	ELEV	NUMBER	NAME	LOCATION	ELEV	NUMBER	NAME	LOCATION	ELEV	NUMBER	NAME	LOCATION	ELEV	
		TET	101			TET	101			TET	101			TET	101			TET	101	
OWYHEE, MALHEUR WATERSHEDS (11)																				
	Owyhee River			16H3AP	Hidden	(Nev)	18 39N 46E 7200	18E20	Eldorado Pass	20 14S 38E 4600	18E23	Little Alpa	1D 7S 37E 6200	Willow Creek						
				16G7HP	Mud Flat	(Ida)	34 9S 3W 5500	18E26a	Flag Prairie	32 16S 36E 4750	18E30	Little Antone	1 7S 37E 5000	21E6	Rock Pass	24 13S 74E 4735	22E12	Fountain Lake	9 36S 5E 6000	
				17G5a	Oregon Canyon	(Nev)	9 40S 40E 6950	18E18	Lake Creek	10 16S 39E 5120	18E28	Power Plant	33 7S 38E 3950	21E4	Marion Forks	28 11S 7E 2730	21G4P	Gerber	12 32S 11E 4850	
				17H6a	Quinn Ridge	(Nev)	9 47N 41E 6300	18E27a	Logan Valley	13 16S 33E 5100	17D7P	Taylor Green	3 6S 42E 5740	22E5	Hill City	29 9S 3E 826	22G26	Howard Prairie	32 36S 4E 4500	
				16G11a	Rad Canyon	(Ida)	32 11S 4W 6500	18P1	Rock Spring	23 18S 32E 5100				21E5	Santiam Junction	14 13S 7E 3990	22G10	Hvatt Prairie Reservoir	15 36S 5E 4900	
				15H6P	Rodeo Flat	(Nev)	36 43N 53E 6800	18E12p*	S. Fk. Willow Cr.	2 16S 37E 5500				21E3	Whitewater Bridge	20 10S 7E 3173	22G15	Lake of the Woods	14 37S 3E 4060	
				15H5A	76 Creek	(Nev)	6 44N 58E 7100	18F4P	Stinking Water	33 21S 34E 4800	Pine Creek				UPPER JOHN DAY WATERSHEDS (14)					
				16F3AP*	Silver City	(Ida)	6 3S 3W 6400				Grande Ronde River				McKenzie River					
				16G19P	South Mountain No.2	(Ida)	35 32S 32E 6900	BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS (14)				Upper John Day River								
				16H19P	Sugar Creek	(Nev)	10 8S 5W 6340				17D8	Schneider Meadows	35 6S 43E 5400	19D9P	Arbuckle Mountain	33 43 29E 5400	21E8	Dead Horse Grade	13 16S 7E 3800	
				15H19a	Stag Mountain	(Nev)	32 41N 58E 7800							18D12P	Battle Mountain Summit	20 5S 31E 4340	22E4	Lost Creek Ranch	24 14S 6E 1936	
				16F6a	Cocon Creek	(Ida)	25 3S 5W 6100				17D1	Anaroid Lake No. 1	16 43 45E 7480	19E2M	Beach Creek Summit	31 53 11S 30E 4650	22E5	McKenzie	35 13S 5E 4800	
				15H9P	Taylor Canyon	(Nev)	35 39N 53E 6200				17D2P	Anaroid Lake No. 2	16 43 45E 7300	18E16P	Blue Mountain Springs	21 13S 35E 5900	22E6	McKenzie Bridge	13 16S 31 1372	
				16H7a	Toe Jam	(Nev)	29 40N 50E 7700				18E1P	Anthony Lake	18 7S 37E 7125	18E13M	Blue Mountain Summit	6 12S 36E 5098	22E7	Vida	28 16S 2E 400	
				15H8	Tremewan Ranch	(Nev)	9 39N 55E 5700				17D10a	Bald Mountain	14 6 15 43E 6700	19E3M	East Fork Canyon	14 13S 23E 5670	22E8	White Branch Slide	15 14S 7E 3800	
				16G4MA	Triangle	(Ida)	25 7S 3W 5150	18E13M	Blue Mountain Summit	6 12S 36E 5098	18D9	Beaver Reservoir	8 5S 37E 5150	18E8	Gold Center	21 9S 36E 5440	Middle Fork Willamette River			
				18G5a	Trent Creek	(Ida)	10 41S 38E 7800	17E1MP	Dooley Pass	32 11S 40E 5430	18D6P	County Line	28 43 34E 4800	18E7	Indian Cr. Butte	5 15S 35E 6550	22F3	Cascade Summit	7 23S 6E 4980	
				16G4MA	Triangle	(Ida)	25 7S 3W 5150	18F9P	Eldorado Pass	20 14S 38E 4600	18D6P	Lucky Strike	28 3S 32E 5050	19E9P	Izee Summit	28 16S 29E 5293	22F6	McCredie Springs	30 21S 4E 3170	
				16G12a	Vaught Ranch	(Ida)	10 11S 1W 5950	18E8	Gold Center	21 9S 36E 5340	18D5	Mesoham	24 25 1S 35E 4300	18D6P	Lucky Strike	28 16S 29E 5293	22F8	Meridian Dam	15 19S 1W 750	
				16G13a	War Eagle	(Ida)	20 3S 3W 7700	18E9P	Tipton	34 10S 35E 5100	17D13a	Mirror Lake	34 4S 44E 8900	20E2P	Marks Creek	25 12S 19E 4540	22F7	Oak Ridge	16 11S 3P 1510	
											17D16H	Hess Springs	28 3S 41E 5850	20E2	Ochoce Meadows	21 13S 10E 5200	22F5	Railroad Overpass	21 28S 5E 3750	
											18D7	Schoolmans	28 43 34E 4775	18E7a	Olive Lake	14 9S 34E 6000	22F7	Salt Creek Falls	29 3 34E 6000	
											17D11a	Standley	28 23 42E 7406	18D7b	Schoolmans	29 43 34E 4775	22F8	Walds Lake	13 11S 6E 5500	
											18E1P	Anthony Lake	18 7S 37E 7125	19P1M	Snow Mountain	1 19S 26E 5070	22F14*	Willamette Pass	33 24S 54E 5000	
											18E5	Burne	33 8S 37E 5800	17D7P	Taylor Green	3 6S 42E 5740				
											17E1MP	Dealey Mountain	32 11S 40E 5430	18D4M	Talgotte	3 42 4W 38E 5070				
											18E3	Ellerton Meadows	18 8S 38E 5400	17D16a	TV Ridge No. 2	12 2S 43E 7000				
											18E8	Gold Center	21 9S 36E 5340							
											18E6A	Goodrich Lake	4 9S 38E 6775	Imnaha River						
											18E2P	Intake House	5 8S 38E 4930	17D1	Anaroid Lake No. 1	16 43 45E 7480	UPPER DESCHUTES, CROOKED WATERSHEDS (1)			
											17D12m	Ledd Summit	5 5S 39E 3730	17D2P	Anaroid Lake No. 2	16 43 45E 7300	22F10	Golden Curry Creek	4 2S 1P 9130	
																	22F13	Laying Creek N. 1	31 21S 1P 1900	
																	LAKE COUNTY, GOOSE LAKE WATERSHEDS (11)			



21F8	Black Pine Springs	14	168	9E	4600
21F9	Caldwell Ranch	30	215	8E	4400
22F3	Cascade Summit	7	235	6E	4680
21F11	Chemult	21	273	8E	4760
21F20P	Ossy Creek	25	205	7E	4554
21E6	Harry Peap	24	135	7E	4755
21F4	Harry Flat	30	185	11E	4400
21F6*	Irish-Taylor	25	103	6E	5500
21F17	Howick	23	253	8E	4700
21F10	New Crescent Lake	11	245	6E	4800
21E16	New Dutchman Flat #2	21	183	9E	6400
21F3	Tangent	28	185	10E	5400
21E15	Three Creeks Butte	27	168	9E	5200
21E13	Three Creeks Meadows	14	165	9E	5650
22F2P	Waldo Lake	35	215	6E	5500
22F14*	Willamette Pass	33	248	5E	5600

Crooked River					
19EHP	Derr	14	13*	23E	5670
20E1MP	Harka Creek	35	125	19E	4540
20E2	Ochoona Meadows	21	13*	20E	5200
19F1M	Snow Mountain	1	19*	26E	6300
19E4	Timarack	8	15*	25E	4800

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS (10)					
Hood River					
21D5P	Brooks Meadows	2	25	10E	4300
21D25M	Copper Spur	6	23	10E	5490
21D1	Greenpoint Reservoir	27	28	9E	3200
21D20	Knebel Springs	31	18	11E	3550
21D23	Parkdale	5	18	10E	1770
21D4*	Phlox Point	7	3*	9E	5400
21D8	Red Hill	30	18	9E	4400
21D9	Still Creek	25	35	8E	3670
21D21	Switchback	28	18	9E	3255
21D7P	Tilly Jane	15	23	9E	6000
21D21	Ulrich Ranch Junction	28	18	11E	3350
21D30	Umbrella Falls	3	3*	9E	5400
21D24	Upper Valley	20	18	10E	2530

Mile Creeks - Mosier Creek					
21D6P	Brooks Meadows	2	23	10E	4700
21D20	Knebel Springs	31	18	11E	3850
21D21	Ulrich Ranch Junction	28	18	11E	3550

Lower Deschutes River					
21D14	Clear Lake	29	45	9E	3500
21D22	Clear Lake Experimental	29	45	9E	3500
21E6	Harry Pass	24	135	7E	4755

LOWER COLUMBIA WATERSHEDS (10)					
Sandy River					
21D8*	Phlox Point	7	3*	9E	5400
21D9*	Still Creek	25	35	8E	3670

WILLAMETTE WATERSHEDS (10)					
Clackamas River					
21D3	Clackamas Lake	35	53	8E	5400
21D12	Clear Lake	29	45	9E	3500
21D14P*	Peavine Ridge	14	15	6E	3500
21D6*	Phlox Point	7	3*	9E	5400
21D9*	Still Creek	25	35	8E	3670

Santiam River					
22E1	Detroit (City)	1	108	5E	1610
22E2	Detroit Dam	7	108	5E	1580

Map and Index to OREGON SNOW COURSES



The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE

- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys .
- Oregon State University
- Oregon State Engineer and Corps of State Watermasters
- Oregon State Highway Engineers
- Soil and Water Conservation Districts of Oregon

COUNTY

- Douglas County Water Resources Survey

FEDERAL

- Department of Agriculture
 - Cooperative Extension Service
 - Forest Service
 - Soil Conservation Service
- Department of Commerce
 - Weather Bureau
- Department of the Interior
 - Bonneville Power Administration
 - Bureau of Land Management
 - Bureau of Reclamation
 - Fish and Wildlife Service
 - Geological Survey
 - National Park Service
- Department of National Defense
 - Corps of Army Engineers

PUBLIC UTILITIES

- Pacific Power and Light Company
- Portland General Electric Company
- California-Pacific Utilities Company

MUNICIPALITIES

- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS

- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Hood River Irrigation District
- Jordan Valley Irrigation District
- Juniper Flat Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- Middle Fork Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale-Oregon Irrigation District
- Warm Springs Irrigation District

PRIVATE ORGANIZATIONS

- The Crag Rats, Hood River, Oregon

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SOIL CONSERVATION SERVICE
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with the Snow Survey"*

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